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HENDERSON'S DICTIONARY OF
Biological Terms

Tenth Edition

Eleanor Lawrence



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primary host

ation is completed. cf. secondary growth.

primary host host in which a parasite lives for much of its life cycle and in which it becomes sexually mature.

primary immune response the immune response made on first contact with an antigen, taking several days to develop and in which the antibody is initially IgM.

primary lymphoid organs in mammals, the bone marrow and thymus, which produce B and T lymphocytes respectively, but which do not participate directly in immune reactions.

primary meristems the meristematic tissue in developing plant embryo, consisting of outer protoderm (which gives rise to epidermis), surrounding the ground meristem (which gives rise to highly vacuolated loose ground tissue), which encloses the central procambium or procambial strand from which the vascular bundles arise.

primary mycelium haploid mycelium originating from a basidiospore.

primary oocyte oogonia which have begun the 1st meiotic division.

primary organizer see organizer.

primary phloem collectively, the protophloem and metaphloem, the phloem derived from the primary cambium during primary growth.

primary plant body the plant body formed from growth at the apical meristems.

primary producer autotroph q.v.

primary production (PP) fixation of inorganic carbon, etc. into organic matter by autotrophs, which are sometimes therefore called primary producers.

primary root root that develops as a continuation of the radicle in plant seedling.

primary sere plant succession on area previously without vegetation, from bare ground to climax community.

primary sexual characters differences between the sexes relating to the reproductive organs and gametes.

primary spermatocyte see spermatocyte.

primary structure in proteins, the amino acid sequence, in nucleic acids, the nucleotide sequence.

primary succession a plant succession that begins on bare ground.

primary transcript original RNA product of a transcription unit which has not yet been modified by splicing, capping, polyadenylation etc.

primase *n.* RNA polymerase which synthesizes the RNA primer for DNA synthesis during DNA replication.

Primates *n.* an order of mammals known from the Paleocene and including tree shrews, lemurs, monkeys, apes and man. They are largely arboreal with limbs modified for climbing, leaping or brachiating (swinging), large brains in relation to body size, a shortening of the snout and elaboration of the visual apparatus, often with stereoscopic vision.

prime movers the ultimate factors that determine the direction of evolutionary change. They are of two kinds: basic genetic mechanisms, preadaptations and constraints imposed by an organism's existing developmental programme on the one hand, and the set of all environmental influences that constitute the agents of natural selection on the other.

primer *n.* short RNA which must be synthesized on a DNA template before DNA polymerase can start elongation of a new DNA chain. It is subsequently removed and the gap infilled with DNA.

primate *n.* the first of any pair of individuals in the chain-like colonies of gregarine protozoans, in which the front end of one (the satellite) becomes attached to the posterior end of another (the primate).

primitive *a.* of earliest origin; not differentiated or specialized; *appl.* traits that appeared first in evolution and which give rise to other, more advanced, traits. They are often, but not always, less complex than the advanced ones.

primitive node area of proliferating cells in which the primitive streak begins, thickened anterior wall of primitive pit.

primitive pit enclosure at anterior end of the confluent folds of the primitive streak.

primitive streak in the flat, disc-like early embryos of reptiles, birds and mammals, the two parallel longitudinal folds that develop on the epiblast and which represent the region at which cells are moving into the interior of the embryo to form the notochord, the anterior end of the primitive streak corresponding to the dorsal lip of the blastopore in amphibian gastrulas.

primordial *a.* primitive; original, first begun; first formed; *appl.* e.g. to embryonic cells which will develop into particular cell types or tissues, as in primordial germ cell.

primordial cell initial *q.v.*

primordial follicle immature human ovarian follicle in the earliest stages of development, in which the oocyte is arrested in prophase of the first meiotic division and is surrounded by a single layer of follicle cells.

primordial germ cell in the early sexually undifferentiated embryo, cells whose descendants will eventually give rise to eggs or sperm.

primordium *n.* original form; a developing structure at the stage at which it starts to assume a form. *alt.* anlage.

primosome *n.* assembly of proteins concerned with the initiation of RNA primer formation in DNA replication.

Primulales *n.* order of dicot herbs, shrubs and trees comprising the woody tropical families Myrsinaceae and Theophrastaceae and the temperate family Primulaceae (primrose).

Principes Arecales *q.v.*, the palms.

priodont *a.* saw-toothed; *appl.* stag beetles with smallest development of mandible projections.

prion *n.* proteinaceous infectious particle, a protein complex lacking nucleic acid, which has been implicated in the transmission of scrapie, kuru and Creutzfeldt-Jacob disease, but whose status is still uncertain.

prismatic *a.* like a prism, *appl.* cells, leaves; consisting of prisms, as the prismatic layer of shells; *appl.* soil crumbs in which the vertical axis is longer than the horizontal.

private *a.* *appl.* antigenic determinants unique to a particular haplotype in

sedoheptulose

cellularly as a result of stimulation of cell-surface receptors and which are then responsible for activating the cell's specific response.

secondaries *n.plu.* one type of main flight feather in bird's wing, attached in region of posterior edge of the ulna.

secondary *a.* second in importance or in position; arising not from a growing point but from other tissue.

secondary antibody heterologous anti-immunoglobulin *q.v.*

secondary bud an axillary bud, accessory to normal one.

secondary capitulum the six small cells arising from each capitulum of green algae of the order Charales.

secondary cell culture culture originating from cells taken from a primary cell culture.

secondary cell wall in many plant cells, material laid down on inner surface of primary wall, usually after the cell has stopped growing. It is rich in cellulose but lacks pectin or glycoproteins and is consequently more rigid than the primary wall. Thick laminated secondary walls are found especially in cells specialized for support and water conduction.

secondary constriction any non-staining region of chromosome, other than the centromere, which does not attach to spindle at metaphase.

secondary consumer carnivore that eats herbivores.

secondary cortex phellogen *q.v.*

secondary growth in plants, growth bringing about an increase in the thickness of stem and root, as opposed to extension of plant body at the apices of shoots and roots, and which is most marked in trees and shrubs. It is initiated at lateral meristems which are the vascular cambium, a layer of tissue encircling root and stem between phloem and xylem, producing new xylem and phloem (secondary xylem and phloem) and the cork cambium which contributes to the bark.

secondary host intermediate host *q.v.*

secondary immune response immune response made on a second or subsequent exposure to an antigen, usually

resulting in more rapid onset of antibody production, which is mainly of IgG.

secondary meristem cork cambium *q.v.*

secondary lymphoid tissues in mammals, lymph nodes, spleen, tonsils, Peyer's patches, adenoids and appendix. They contain T and B lymphocytes which have migrated from thymus and bone marrow, and are the sites at which lymphocytes mature, encounter foreign antigen, and at which immune reactions are initiated.

secondary palate bony plate separating mouth cavity from nasal cavities in mammals and crocodiles.

secondary phloem phloem tissue formed from the vascular cambium during secondary growth, sometimes also called the inner bark.

secondary plant body the plant body formed from growth from lateral meristems, i.e. the vascular and cork cambium.

secondary production the yield due to primary consumers.

secondary prothallium a tissue produced in megasporangium of the club moss *Selaginella* after true prothallium is formed.

secondary roots branches of the primary root, arising within its tissue and in turn giving rise to tertiary roots; roots arising at other than normal points of origin.

secondary sexual characteristics features characteristic of a particular sex other than the gonads and genitalia, usually developing under the influence of androgens and oestrogens, and including growth of a beard in men, antlers in stags, and enlarged breasts in women.

secondary structure the two-dimensional configuration of a protein chain or a polynucleotide chain in terms of interactions between amino acids or nucleotides relatively close to one another in the linear sequence.

secondary succession a plant succession following the interruption of the normal or primary succession.

secondary wood secondary xylem, see secondary growth.

secondary xylem see secondary growth.

secrete *v.* to release material or fluid from a cell or tissue.

secretin *n.* polypeptide hormone produced by duodenum during digestion and which stimulates pancreas to produce pancreatic juice containing digestive enzymes.

secretion *n.* material or fluid which is produced and released from a cell or gland.

secretitious *a.* produced by secretion.

secretor *n.* person who secretes blood group antigens in saliva and other body fluids, a genetically-determined trait.

secretory *a. appl.* cells and tissues that secrete substances such as digestive enzymes, polypeptide hormones, neurotransmitters or complex material such as mucus, slime etc.; *appl.* proteins and other material that are secreted.

secretory component, secretory piece small protein component present in IgA found in mucous secretions but not in serum IgA.

secretory vesicle small membrane vesicle in cytoplasm of eukaryotic cells which contains material to be secreted.

sectile *a.* cut into small partitions or compartments.

section *n.* thin slice of tissue prepared for microscopy; a taxonomic group, often used as a subdivision of a genus, but used in different ways by different authors and never precisely defined.

secular *a.* long term, over a long period of time.

secund *a.* arranged on one side, *appl.* flowers on a stem.

secundiflorous *a.* having flowers on one side of stem only.

secundine *n.* the internal integument of ovule.

secundines *n.plu.* the foetal membranes collectively.

secundly *adv.* on one side of a stem or axis.

sedentaria *n.plu.* sessile or sedentary organisms.

sedentary *a.* not free living, *appl.* animals attached by a base to some substratum.

sedoheptulose *n.* 7-carbon ketose sugar, as the phosphate and bisphosphate in-